

# ACUTE BLUE FINGERS IN WOMEN

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**A previously undescribed syndrome affecting the fingers of women is presented. The patients experience a sharp pain and then the fingers become blue and numb. The discoloration resolves within 72 hours without the changes normally associated with an ecchymosis. Clinical and haematological examination of six patients failed to show any common factors or associated systemic disease. This syndrome is of no clinical significance to the patient, but it is important for clinicians to be aware of it because the acute phase can cause anxiety, suggesting more serious vascular disease.**

Discoloration of the fingers from vascular disturbance can occur in a wide range of clinical conditions. It may be due to persistent or to episodic vasospasm, and can be caused by trauma, occlusive arterial disease, connective tissue disorders, nerve lesions, thoracic inlet obstruction, poisons and abnormal blood constituents. These diseases have been fully reviewed elsewhere (Coffman and Davies 1975; Porter *et al.* 1976; *Lancet* 1977; Birnstingl 1979); in the majority of them there is a recognised abnormality of vessels, nerves or blood, and the condition usually affects all fingers simultaneously.

The cases reported here do not seem to fit into any of the previously described groups. All occurred in women. The average age of presentation was 45 years and the average age of onset was 32. In none was an obvious cause found. All the patients described similar attacks, varying in frequency from once in four years to six times a year. Details of the patients, symptoms and investigations are given in Tables I to III.

The attacks consisted of a sharp pain felt in any single finger of either hand, usually occurring when carrying out normal household tasks such as washing clothes, washing-up or turning taps. The sharp pain was sometimes followed by an ache. The finger then immediately turned blue, mainly on the volar aspect but spreading later to involve the whole finger, which at the same time became numb. However, the cutaneous sensibility, when examined during this acute phase, was normal. The discoloration seemed to be due to extravasation of blood into the subcutaneous tissues, but it resolved in 24 to 72 hours without the colour changes normally associated with an ecchymosis. The feeling of numbness usually disappeared more quickly than the blueness.

## CASE REPORTS

**Case 1.** A doctor's wife, aged 60, first had symptoms at the age of 29, and has had them about twice a year since. She is otherwise healthy and takes no drugs. A maternal aunt suffered the same symptoms.

**Case 2.** A widow aged 71, who is the mother-in-law of a doctor, has had symptoms from the age of 40. Now they occur once or twice a year. She has had bilateral total hip replacements but is otherwise healthy and takes no drugs.

**Case 3.** This doctor's wife, aged 43, is the daughter of the previous patient (Case 2). She first presented at the age of 35 and has had four attacks in eight years. She is otherwise healthy and takes an oral contraceptive.

**Case 4.** A doctor's secretary, aged 51, first had symptoms at the age of 40. Her attacks may occur two to three times in a week at intervals of a few months. She suffers from mild Raynaud's disease. She also takes thyroxine and caffeine elixir for other conditions. She is convinced that the two problems affecting her fingers are quite distinct.

**Case 5.** An occupational therapist, working in a hand surgery unit, has had symptoms since the age of 25 and they occur about six times a year. Four years ago, at the age of 45, she developed transient cerebral ischaemia due to stenosis of the carotid artery; for this she takes warfarin.

**Case 6.** A housewife, aged 55, presented in Casualty with her second attack in four years. She had suffered a mild right-sided stroke some years before and takes diazepam and Navidrex-K for hypertension.

Table I. Details of the patients

| Case number | Age (years) | Age of onset (years) | Frequency per year | Family history |
|-------------|-------------|----------------------|--------------------|----------------|
| 1           | 60          | 29                   | 2                  | Yes            |
| 2           | 71          | 40                   | 1-2                | Yes            |
| 3           | 43          | 35                   | 0.5                | Yes            |
| 4           | 51          | 40                   | 4-6                | No             |
| 5           | 49          | 25                   | 6                  | No             |
| 6           | 55          | 51                   | 0.5                | No             |

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Table II. Symptoms at presentation

| Case number | Blood pressure* (mmHg)                         | Duration of symptoms (hours) |          |          |
|-------------|--|------------------------------|----------|----------|
|             |  | Pain                         | Numbness | Blueness |
| 1           | 130/100  | 2                            | 2        | 24       |
| 2           | 120/80   | 8-24                         | 24       | 48       |
| 3           | 110/70   | 1-2                          | 6-12     | 24-48    |
| 4           | 130/90   | 1                            | Nil      | 48-72    |
| 5           | 140/85   | <1                           | 1-2      | 24-36    |
| 6           | 140/90   | 24                           | 24       | 48-72    |
| All cases   | Heart sounds and peripheral pulses were normal |                              |          |          |

\*Blood pressure was taken in both arms and no differences were found.

Since these histories were collected, the patient in Case 3 has discovered many friends who claim to have suffered similar attacks, but none has been observed. All six patients reported here have been seen by one or other author during the acute attack. No men have been found to have the symptoms.

### DISCUSSION

In view of the benign nature and natural history of resolution, it was felt unjustified to perform extensive or invasive investigations. Clinical examination of all the patients revealed normal heart sounds, no abnormal bruits in either the supraclavicular fossa or axilla, and normal blood pressure. One patient (Case 4) had a tendency to discoloration of the fingers resulting from Raynaud's disease in addition to the blue fingers described. Another (Case 5) suffered from blue fingers for many years before she developed stenosis of the carotid artery. The patient in Case 6 had a residual weakness of the right hand and arm due to a stroke. The one possible common factor was that all the subjects thought that they might bruise easily, but they all had normal platelet counts.

We would like to thank the patients, who all felt that we were taking too much notice of their symptoms.

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Table III. Investigations

| Case number | Haemoglobin (g/dl) | Platelets | ESR (mm/1 h) | Latex (iu) | ANF |
|-------------|--------------------|-----------|--------------|------------|-----|
| 1           | 13.0               | Normal    | 5            | <5         | -ve |
| 2           | 12.2               | Normal    | 6            | <5         | -ve |
| 3           | 13.0               | Normal    | 8            | <5         | -ve |
| 4           | 13.2               | Normal    | 4            | <5         | -ve |
| 5           | 14.2               | Normal    | 8            | <5         | -ve |
| 6           | 12.9               | Normal    | 25           | <5         | -ve |

ANF, antinuclear factor.

There is no evidence of associated systemic disease or drug intake. Attacks appear to be precipitated by normal household activities but not associated with extremes of temperature. The fact that three of these patients are related to doctors by marriage and a further two work with doctors is probably an indication that they recognise the benign nature of the symptoms and would not normally report them to a doctor, rather than a causative relationship. The family history in three cases may indicate the incidence of the syndrome rather than a genetic basis. There is, however, a definite bias for women, as no male blue fingers have been reported or observed.

The attacks suffered by all these women differ from the original description by Raynaud (1888) and do not conform to the criteria of Allen and Brown (1932). Two patients (Cases 1 and 2) have suffered symptoms for 30 years without developing any trophic or other changes that might indicate Raynaud's disease.

As far as we are aware, this syndrome of acute blue fingers is previously unreported. It is of no significance to the patient. It is, however, important that clinicians should be aware of this group of symptoms, as otherwise the acute phase may cause anxiety in the mistaken belief that the symptoms are an indication of more serious vascular disease.